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VIA ELECTRONIC TRANSMISSION

Mr. Rodrick M. Seeley
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration
8701 South Gessner, Suite 1110
Houston, Texas 77074

RE: CPF 4-2013-5005M

Dear Mr. Seeley:

In November 2011, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) Southwest Region inspected Enbridge Pipelines (Ozark) L.L.C., Cushing Terminal (Enbridge) procedures for breakout tanks in Cushing, Oklahoma. PHMSA has identified possible inadequacies found within Enbridge's plans or procedures.

In response to the Notice of Amendment (NOA) issued by PHMSA dated March 4, 2013, and received by Enbridge on March 11, 2013, we appreciate the opportunity to comment and offer the following response. The general format of our response lists the abbreviated probable violations in PHMSA's finding and follows with Enbridge's response.

PHMSA Finding

1. §195.132 Aboveground breakout tanks.

(a) Each aboveground breakout tank must be designed and constructed to withstand the internal pressure produced by the hazardous liquid to be stored therein and any anticipated external loads.

(b) For aboveground breakout tank first placed in service after October 2, 2000, compliance with paragraph (a) of this section requires one of the following:

(1) Shop-fabricated, vertical, cylindrical, closed top, welded steel tanks with nominal capacities of 90to 750 barrels (14.3 to 119.2 m \3\) and with internal vapor space pressures that are approximately atmospheric must be designed and constructed in accordance with API Specification 12F.

(2) Welded, low pressure (i.e., internal vapor space pressure not greater than 15 psig (103.4 kPa)), carbon steel tanks that have wall shapes that can be generated by a single vertical axis of revolution must be designed and constructed in accordance with API Standard 620.

(3) Vertical, cylindrical, welded steel tanks with internal pressures at the tank top approximating atmospheric pressures (i.e., internal vapor space pressures not great than

2.5 psig (17.2 kPa), or not greater than the pressure developed by the weight of the tank roof) must be designed and constructed in accordance with API Standard 650.

(4) High pressure steel tanks (i.e., internal gas or vapor space pressures greater than 15 psig (103.4 kPa)) with nominal capacity of 2000 gallons (7571 liters) or more of liquefied petroleum gas (LPG) must be designed and constructed in accordance with API Standard 2510.

The Enbridge procedure specifies that the most recent edition of industry standards API Standard 650 and API Standard 653 will apply rather than the version of the standard incorporated by reference as listed in 49 CFR 195.3. Enbridge must modify its procedure to require the use of the versions of the standards incorporated by reference into Part 195.

Enbridge Response

Enbridge recognizes that 49 CFR 195 sets forth the minimum requirements an operator must comply with for the construction and inspection of above ground break-out tanks. Enbridge believes that by using the latest editions of API 650 and 653 we are meeting or exceeding those requirements. The version of the standard incorporated by reference as listed in 49 CFR 195.3 is API 650 - Eleventh Edition; Incorporating Addendum 1: November 2008 and API 653 - Third Edition; ADD 1: 9/2003; ADD 2: 11/2005; ADD 3: 2/2008; Errata: 4/2008.

API 650 and 653 are rigorously vetted through their respective API committees of which we are active participants. The API committee is composed of a cross section of the foremost industry tank experts from operators, fabricators and engineering. Any changes made to these standards need to be approved by the majority of the committee and are done with the safety of the public as a top priority.

As a member of API, Enbridge agrees to meet or exceed these standards as well. By utilizing the current versions of the industry standards, we will typically attain the same or more conservative results than earlier versions. By way of example, the 2008 version of API 653 allows for a Risk Based Inspection (RBI) analysis to establish inspection intervals which in many cases would achieve the same or possibly less conservative results as using the latest version. Essentially, in the latest version, API has translated an RBI assessment into more tangible criteria as related to the key risk variables (i.e. cathodic protection, linings, leak detection, etc.).

By way of comparison, PHMSA issued a stay of enforcement on December 23, 2008 for API 5L and API 1104 so that the newer standards could be utilized by the industry. Similarly to the 2008 stay of enforcement, the newer versions of API 650 and 653 moves the industry to build and maintain above ground storage tanks to a more consistent and increased level of safety than previous versions. Enbridge believes that utilizing the more current API standards is consistent with meeting or exceeding 49 CFR Part 195 requirements and prefers to continue referencing the latest version of the standards, as these align and are consistent with our Canadian regulatory requirements in meeting the joint safety objectives. We request and await further guidance from PHMSA on this position.

PHMSA Finding

2. §195.205 Repairs, alteration and reconstruction of aboveground breakout tanks that have been in service.

(a) Aboveground breakout tank that have been repaired, altered, or reconstructed and returned to service must be capable of withstanding the internal pressure produced by the hazardous liquid to be stored therein and any anticipated external loads.

(b) After October 2, 2000, compliance with paragraph (a) of this section requires the following for the tanks specified:

(1) For tanks designed for approximately atmospheric pressure constructed of carbon and low alloy steel, welded or riveted, and non-refrigerated and tanks built to API Standard 650 or its predecessor Standard 12C, repair, alteration, and reconstruction must be in accordance with API Standard 653.

(2) For tanks built to API Specification 12F or API Standard 620, the repair, alteration, and reconstruction must be in accordance with the design, welding, examination, and material requirements of those respective standards.

(3) For high pressure tanks built to API Standard 2510, repairs, alterations, and reconstruction must be in accordance with API 510.

The Enbridge procedure specifies that the most recent edition of industry standards API Standard 650 and API Standard 653 will apply rather than the version of the standard incorporated by reference as listed in 49 CFR 195.3. Enbridge must modify its procedure to require the use of the versions of the standards incorporated by reference into Part 195.

Enbridge Response

Please see the response for item 1 for modifying our standards to require the use of the version of API 650 and API 653 incorporated by reference into Part 195.

PHMSA Finding

3. §195.264 Impoundment, protection against entry, normal/emergency venting or pressure/vacuum relief for aboveground breakout tanks. Impoundment, protection against entry, normal/emergency venting.

(a) A means must be provided for containing hazardous liquids in the event of spillage or failure of an aboveground breakout tanks.

(b) After October 2, 2000, compliance with paragraph (a) of this section requires the following for aboveground breakout tanks specified:

(1) For tanks built to API Specification 12F or API Standard 620, and others (such as API Standard 650 or its predecessor Standard 12C), the installation of impoundment must be in accordance with the following section of NFPA 30:

(i) Impoundment around a breakout tank must be installed in accordance with section 4.3.2.3.2; and

(ii) Impoundment by drainage to a remote impounding area must be installed in accordance with section 4.3.2.3.1.

(2) For tanks built to API 2510, the installation of impoundment must be in accordance with section 5 or 11 of API 2510 (incorporated by reference, see §195.3).

The Enbridge procedure Facility and Tank Containment System, paragraph 2.2 Tank Containment states "Tank containment is regulated by the NFPA". The NFPA is an organization that develops codes and standards but is not a regulatory agency. While Part 195 incorporates NFPA 30 by reference, breakout tank impoundment requirements are specified by 49 CFR 195.264 and regulated by PHMSA. Enbridge must modify its procedure to specify the correct regulatory authority for breakout tanks involved in interstate commerce. In addition, the Enbridge procedure also specifies that the most recent edition of NFPA 30 shall apply. The Operator must modify its procedures to specify the version of NFPA 30 incorporated by reference into Part 195 shall be used for breakout tanks built to API 12F, API 620 or API 650. The Enbridge Facility and Tank Containment Systems procedure must also be modified, if applicable, to specify that for breakout tanks built to the API 2510 standard, impoundment must be in accordance with section 5 or 11 of the version of this standard incorporated by reference into Part 195.

Enbridge Response

Enbridge shall modify Standard D05-101 to reflect that PHMSA is the regulating body for tank impoundment and that NFPA 30 is incorporated by reference.

However, similarly to Items 1 and 2 above Enbridge believes that the latest version of NFPA 30 should apply. The version of the standard incorporated by reference as listed in 49 CFR 195.3 is NFPA "Flammable and Combustible Liquids Code 2008 Edition Effective Date: 8/15/2007". The current version is the 2012 Edition. This standard is vetted through a committee of experts, and changes made to this code are done with safety as the top priority.

It should be noted that the sections of NFPA 30 that are cited in 195.264 (b) (i) and (ii) are incorrect (specifically, section 4.3.2.3.2 and 4.3.2.3.1 respectively). In the 2008 Edition, chapter 4 deals with definition and classification of liquids. Previous editions of this standard addressed impoundment in chapter 4 while 2008 and later Editions have moved this information to Chapter 22.

Again, we will look forward to your position on this matter.

PHMSA Finding

4. §195.264 Impoundment, protection against entry, normal/emergency venting or pressure/vacuum relief for aboveground breakout tanks.

(c) Aboveground breakout tanks areas must be adequately protected against unauthorized entry.

The Enbridge procedure, General Site Security, deals with coordinating security, inspecting security, and security awareness, but does not specify that breakout tank areas must be protected against unauthorized entry. Also, the procedure does not specify the security measures that will be employed or the methodology of determining what security measures are needed for a given location. Enbridge must modify its procedures to specify that breakout tank areas will be protected from unauthorized entry, identify the security measures that can be employed, and identify the methodology of determining the security measures that are needed at a given site so that it is clear how Enbridge consistently determines and implements security measures at all of its locations.

Enbridge Response

Enbridge provides gated access control and comprehensive fencing around the perimeter which includes the break out tank areas. Further security is established with the use of signage, camera systems and/or security guards. The Corporate Security Management Department evaluates threats, vulnerabilities and consequences on a continuous basis. Subsequently our Region Specific Security Plan categorizes baseline requirements and preparedness should there be an elevated or imminent threat. This plan shall be reviewed, updated and following, a copy will be sent to PHMSA. Target completion for this Cushing Security Plan to be reviewed and updated is by November 1, 2013.

PHMSA Finding

5. §195.307 Pressure testing aboveground breakout tanks.

(d) For aboveground breakout tanks built to API Standard 650 (incorporated by reference, see §195.3) and first placed in service after October 2, 2000, testing must be in accordance with Section 5.2 of API Standard 650 (incorporated by reference, see §195.3).

(c) For aboveground atmospheric pressure breakout tanks constructed of carbon and low alloy steel, welded or riveted, and non-refrigerated and tanks built to API Standard 650 or its predecessor Standard 12C that are returned to service after October 2, 2000, the necessity for the hydrostatic testing of repair, alteration, and reconstruction is covered in section 10.3 of API Standard 653.

The Enbridge procedures covering hydrostatic testing of tanks (CQS001-2006, D03-102-2001) specify that the most recent edition of industry standards (API Standard 650, API Standard 653) will apply rather than the version of the standard incorporated by reference as listed in 40 CFR 195.3. Enbridge must modify its procedures to require the use of the version of the Standard incorporated by reference into Part 195. The references to paragraphs in API Standard 650 and API Standard 653 in the Enbridge standard, Integrity Assessment, Oil Tank, paragraph 4, Hydrostatic Testing must also be corrected. In addition, the Enbridge procedures for hydrostatic testing must state that the hydrostatic test records for breakout tanks must be maintained for the life of the tanks.

Enbridge Response

Please see the response for item 1 for modifying our standards to require the use of the version of API 650 and API 653 incorporated by reference into Part 195. Additionally, Enbridge will modify our standards to reflect that hydrostatic test records for breakout tanks shall be maintained for the life of

the tank. Once this procedure is modified, a copy of the revised procedure will be sent to PHMSA. Target Completion for this modified procedure is November 1, 2013.

PHMSA Finding

6. §195.405 Protection against ignitions and safe access/egress involving floating roofs.

(a) After October 2, 2000, protection provided against ignitions arising out of static electricity, lightning, and stray currents during operation and maintenance activities involving aboveground breakout tanks must be in accordance with API Recommended Practice 2003, unless the operator notes in the procedural manual (§195.402(c)) why compliance with all or certain provisions of API Recommended Practice 2003is not necessary for the safety of a particular breakout tank.

The Enbridge procedure, Grounding Methods, lists API RP 2003 as a referenced industry standard but does not specifically require that breakout tank grounding be in accordance with this standard and has not noted why compliance with the standard is not necessary. Also, the Operator specifies that the most recent edition of the procedure shall apply. Enbridge must modify its procedures to require that breakout tank grounding be done according AP RP 2003 and that the version incorporated by reference into Part 195 is specified.

Enbridge Response

Enbridge recognizes API RP 2003 as a reference industry standard and believes that API RP 2003 should not be mandated to be followed. Enbridge subject matter experts have deemed in general that lighting protection is not required for new tanks (TSP-009-2004) as the grounding shunts on the floating roof provide adequate protection from lighting strikes. Additionally API RP 2003 is a broad standard and only a small portion applies to aboveground storage tanks. Enbridge agrees that protection from static electricity, lightning, and stray currents is mandatory; however, we do not believe that API RP 2003 should be mandatory. API has issued more recent recommended practices (API RP 545: Recommended Practice for Lightning Protection of Aboveground Storage Tanks for Flammable or Combustible Liquids, published in 2009) that may be more applicable to above ground storage tanks then API RP 2003.

In response to modifying our procedures to require the use of the version of API RP 2003 incorporated by reference into Part 195, Enbridge believes that the latest version of industry standard API RP 2003 should apply. Consequently, the version incorporated by reference is actually the latest version of this recommended practice.

PHMSA Finding

7. §195.430 Firefighting equipment.

Each operator shall maintain adequate firefighting equipment at each pump station and breakout tank area. The equipment must be:

(a) In proper operating condition at all times;

(b) Plainly marked so that its identity as firefighting equipment is clear; and,

(c) Located so that it is easily accessible during a fire.

The Enbridge standard, Firefighting Equipment, lists OSHA regulations as a referenced but does not refer to the requirements of 49 CFR 195.430. The Operator must modify its procedures to include the requirements or reference 195.430.

Enbridge Response

During the Inspection a version of our O & MP Manual Book 6 was reviewed. Within Book 6, procedure; 04-03-02 Fire Extinguishers – Inspection, references related Enbridge Standard, Book 2; Safety, 14-02-04. Within 14-02-04 it clearly spells out all the requirements of 49 CFR 195.430 – Firefighting equipment. A copy of both procedures is included.

PHMSA Finding

8. §195.571 What criteria must I use to determine the adequacy of cathodic protection?

Cathodic protection required by this Subpart must comply with one or more of the applicable criteria and other considerations for cathodic protection contained in paragraphs 6.2 and 6.3 of NACE SP 0169 (incorporated by reference, see §195.3)

The Enbridge procedure, Cathodic Protection, specifies on page 4-2 (and on other pages such as 4-4 and 4-7) NACE SP 0169-2007 (or latest revision) is to be used. Enbridge must modify its procedures to specify that the version of NACE SP 0169 incorporated by reference into Part 195 be used. Also, in section 4.3, the Operator lists some allowable cathodic protection criteria that are not specifically included in NACE SP 0169 or NACE RP 651 (for breakout tanks), such as E-Log-I and net protective current. While these criteria are allowed by Part 192, they are not allowable criteria for hazardous liquids pipelines unless the operator has already been using them on a specific pipeline and can show that the results are comparable to that attained by the criteria specified in NACE SP 0169. Since Enbridge could not specify where these criteria were in use on any of their hazardous liquids pipelines, the operator must modify their procedures to exclude the use of these criteria on pipelines regulated under Part 195.

Enbridge Response

Enbridge revised the Corrosion Control Guidelines (CCG), Chapter 4; Cathodic Protection in 2012 to remove the E-Log-I reference and Net Protective Current criteria's because they are no longer being used or accepted in the Enbridge System. (These criteria's were originally an option for use by our Transportation South Division (Gas Gathering) in the event that Enbridge acquired a system that utilized these criteria's).

Note; Enbridge created a separate Criteria section to address CFR Part 192.

In addition Enbridge has created an Engineering Standard; Cathodic Protection-Tanks D04-103 for which the final review is to be completed by the end of April, 2013.

Copies of the applicable section of the CCG and the entire Draft Standard are included in the attached CCG Chapter 4 CP Tank and CP Draft Standard.

PHMSA Finding

9. §195.573 What must I do to monitor external corrosion control?

(c) Breakout tanks. You must inspect each cathodic protection system used to control corrosion on the bottom of an aboveground breakout tank to ensure that operation and maintenance of the system are in accordance with API Recommended Practice 651. However, this inspection I not required if you note in the corrosion control procedures established under Sec. 195.402(c)(3) why compliance with all or certain operation and maintenance provisions of API Recommended Practice 651 is not necessary for the safety of the tank. .

The Enbridge procedure, Corrosion Control Guidelines, Cathodic Protection, Chapter 4, lists API RP 651 as referenced standard on page 4-4 but does not specifically require that operation and maintenance of cathodic protection systems on breakout tanks is in accordance with API RP 651. Enbridge must modify its procedures to specify that corrosion control systems to protect the bottom of breakout tanks must be operated and maintained in accordance with API RP 651.

Enbridge Response

Enbridge revised the Corrosion Control Guidelines in 2012 to specify the requirement to operate and maintain the CP Systems on breakout tanks in accordance with API 651 in section 4.1 and in a Note Box. It is also outlined in General Requirements found in the Draft Engineering Standard; Cathodic Protection-Tanks D04-103, Section 1.0 Scope.

Copies of the applicable section of the CCG and the entire Draft Standard are included in the attached CCG 4.1 Scope and CP Draft Standard.

Enbridge would appreciate your consideration of the additional information provided and proposed measures in this matter. Should you have any questions or require further information, please contact me at (218) 464-5740.

Respectfully,

Shaun Kavajecz
Sr. Manager, US Pipeline Compliance